

NATIONAL AIR INTELLIGENCE CENTER



FREQUENCIES USED WITH SATELLITES (PART 3)



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FREQUENCIES USED WITH SATELLITES (PART 3)

Classified According to Satellite Services

From Article 8 of the International Telecommunication Union Regulations

(Romanized title: *Weixing Yong Pinlü*)

By Chen Daoming (China Space Science and Technology Institute,
Beijing, 100081)

See Volume 2, pages 67-70 of this journal for "Frequencies Used With Satellites (Part 2)."

5. Fixed Satellite Service

2500–2535	MHz	2, 3 (S-E) (761) Limited to domestic and regional systems, complies with ¹ Article 14, Sections 2561 and 2564
2535–2655	MHz	2 (S-E) Limited to domestic and regional systems, complies with Article 14, Sections 2561 and 2564
2655–2690	MHz	2, 3 (E-S) Limited to domestic and regional systems, complies with Article 14, Sections 2561 and 2564 (765) Must protect radio astronomy service ² 2 (S-E) (761) Limited to domestic and regional systems, complies with Article 14, Sections 2561 and 2564 (765) Must protect radio astronomy service

¹ Original wording in ITU Regulations is "...subject to agreement obtained under the procedure set forth in Article 14."

² Original wording: "...administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference."

3400–4200	MHz	(S-E)
4500–4800	MHz	(S-E) (792A) Complies with Appendix 30B
5000–5250	MHz	(797) Complies with No. 797 and Article 14
5725–5850	MHz	1 (E-S) (806) ISM interference occurs at 5800 MHz
5850–6725	MHz	(E-S) (806) ISM interference occurs at 5800 MHz
6725–7025	MHz	(E-S) (729A) Complies with Appendix 30B
7025–7075	MHz	(E-S), (809) Limited
7250–7750	MHz	(S-E)
7900–8400	MHz	(E-S)
10.7–10.95	GHz	(S-E) (792A) Complies with Appendix 30B
10.95–11.2	GHz	(S-E)
11.2–11.45	GHz	(S-E) (792A) Complies with Appendix 30B
11.45–11.7	GHz	(S-E) (792A) Complies with Appendix 30B
10.7–11.7	GHz	1 (E-S) (835) Broadcast satellite feeder link
11.7–12.2	GHz	(S-E) (839) Limited to domestic and regional systems, complies with agreement
12.2–12.5	GHz	3 (S-E) (845) Limited to domestic and regional systems, complies with conditions

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12.5–12.75	GHz	1, 3 (S-E) Complies with conditions 1 (E-S) Complies with conditions
12.7–12.75	GHz	2 (E-S)
12.75–13.25	GHz	(E-S) (792A) Complies with Appendix 30B
13.75–14	GHz	(E-S) (855A) Limited power, will be reviewed by WARC (855B) Will protect non-fixed space research and Earth exploration satellites before January 1, 2000
14–14.5	GHz	(E-S) (858) May be used in non-European countries as a broadcast satellite feeder link
14.5–14.8	GHz	(E-S) (858) May only be used in non-European countries, may only be used as a broadcast satellite feeder link
15.4–15.7	GHz	(797) Complies with No. 797 and Article 14
17.3–18.1	GHz	(E-S) (869) Broadcast satellite feeder link, used as a broadcast satellite feeder link in Region 2 at frequencies between 12.2 and

		12.7 GHz, see Article 15A
		(868A) Shared with broadcast satellites at frequencies between 17.3 and 17.8 GHz, complies with Paragraph 1 in Attachment 4 of Appendix 30A
17.2–21.2	GHz	(S-E) (869A) Frequencies between 17.7 and 17.8 GHz shared with broadcast satellites before April 1, 2007 (872) Passive detectors of Earth exploration and space research satellites protected between frequencies of 18.6 and 18.8 GHz (873) Allows linking with mobile satellite service, is limited
18.1–18.4	GHz	(E-S) (870A) Broadcast satellite feeder link, (870B) not applied to certain countries
24.75–25.25	GHz	2, 3 (E-S) (882Z) Primarily used for broadcast satellite feeder links
27–27.5	GHz	2, 3 (E-S)
27.5–31	GHz	(E-S) (882W) Frequencies between 27.5 and 30 GHz can also be used as broadcast satellite feeder links, (873B) can also link up with mobile satellite service
27.500–27.501	GHz	(S-E) Used as an uplink power control beacon, complies with 882A
27.501–29.999	GHz	S (S-E) Used as an uplink power control beacon
29.999–30.000	GHz	(882A) (S-E) Used as an uplink power control beacon, complies with 882A
30–31	GHz	(E-S)
37.5–40.5	GHz	(S-E)
42.5–43.5	GHz	(E-S) See Section 901
47.2–50.2	GHz	(E-S) (901) Frequencies between 40.5 and 42.5 GHz reserved for broadcast satellite feeder links
50.4–51.4	GHz	(E-S)
71–75.5	GHz	(E-S) (906) Radio astronomy service should be protected at frequencies between 72.77 and 72.91 GHz
81–84	GHz	(S-E)
92–95	GHz	(E-S)
102–105	GHz	(S-E)
149–164	GHz	(S-E) (919) Radio astronomy service should be protected at frequencies between 105 and 151 GHz
202–217	GHz	(E-S)

312-241 [sic]	GHz	(S-E)
265-275	GHz	(E-S) (926) Radio astronomy service must be protected at frequencies between 265.64-266.16 GHz, 267.34-267.86 GHz, and 271.74-272.26 GHz

6. Mobile Satellites

Notations:

- [L] Land mobile satellite
- [M] Marine mobile satellite
- [A] Aeronautical mobile satellite
- [A(R)] Aeronautical mobile satellite (R) Civil aviation route ATC³ (see Section 50)
- [A(OR)] Aeronautical mobile satellite (OR) ATC of civil aviation routes

137-137.025	MHz	(S-E) (599A) (599B)
137.025-137.175	MHz	S (S-E) (599A) (599B)
137.175-137.825	MHz	(S-E) (599A) (599B)
137.825-138	MHz	S (S-E) (599A) Complies with Res. Com. 5/8, (599B) Non-fixed satellite system
148-149.9	MHz	(E-S) (599B) Non-fixed satellite system (608X) Complies with Res. Com. 5/8 (608Z) Certain countries must avoid interference
149.9-150.05	MHz	[L] (E-S) (599B) Non-fixed satellite system (608Y) Complies with Res. Com. 5/8 (609B) S Used before January 1, 1997
235-312	MHz	(641) Complies with Article 14
312-315	MHz	S (E-S) (641A) Non-fixed satellite system, complies with Res. Com 5/8 (641) Complies with Article 14
315-322	MHz	(641) Complies with Article 14
335.4-387	MHz	Complies with Article 14

³ Probably stands for Air Traffic Control.

387-390	MHz S (E-S) (641A) Non-fixed satellite system, complies with Res. Com 5/8
	(641) Complies with Article 14
400.15-401	MHz (S-E) (647X) Complies with Res. Com. 5/8 procedures
	(599B) Non-fixed satellite system
406-406.1	MHz (E-S) (649) Low-power satellite emergency positioning beacon
608-614	MHz S (E-S) Except for [A]
806-840	MHz (700) 2 Complies with Article 14
	(701) 3 Except for [A(R)], complies with Article 14
	(700B) 1 CC Except for [A(R)], must not produce harmful interference

(To be continued.)

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